

ABSTRAK

Ardiansyah : Pengembangan Media Pembelajaran Sistem Komputer Berbasis *Virtual Reality Tour* pada Kelas X SMK Program Keahlian Teknik Komputer Jaringan. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2026

Pembelajaran Informatika pada materi Sistem Komputer di SMK masih menghadapi berbagai kendala, seperti penggunaan media pembelajaran yang cenderung konvensional, keterbatasan fasilitas laboratorium, serta kesulitan siswa dalam memahami konsep-konsep yang bersifat abstrak dan teknis. Hasil observasi di SMK Negeri 13 Medan menunjukkan bahwa siswa menginginkan media pembelajaran yang lebih interaktif dan modern untuk mendukung proses belajar. Oleh karena itu, penelitian ini bertujuan untuk mengembangkan media pembelajaran Sistem Komputer berbasis *Virtual Reality Tour* (VRT) serta mengetahui tingkat validitas dan akseptabilitas media yang dikembangkan.

Penelitian ini merupakan penelitian dan pengembangan (Research and Development/R&D) dengan menggunakan model Agile yang meliputi tahap perencanaan, implementasi, pengujian, dokumentasi, penyebaran, dan pemeliharaan. Subjek penelitian terdiri atas siswa kelas X TKJ 2 SMK Negeri 13 Medan, guru Informatika, serta dosen sebagai ahli materi dan ahli media. Teknik pengumpulan data dilakukan melalui observasi, wawancara, validasi ahli, dan angket respon pengguna. Data dianalisis secara deskriptif kuantitatif untuk menentukan tingkat validitas dan akseptabilitas produk.

Hasil penelitian menunjukkan bahwa media pembelajaran berbasis *Virtual Reality Tour* berhasil dikembangkan dalam bentuk website yang memuat panorama 360°, materi pembelajaran, video, kuis, dan fitur interaktif lainnya. Media yang dikembangkan dinilai valid oleh ahli materi dan ahli media serta memperoleh respon positif dari siswa. Penggunaan media ini membantu siswa memahami materi Sistem Komputer secara lebih visual, menarik, dan interaktif. Selain itu, media dapat diakses melalui komputer maupun smartphone sehingga mendukung pembelajaran yang fleksibel.

Berdasarkan hasil penelitian, dapat disimpulkan bahwa media pembelajaran Sistem Komputer berbasis *Virtual Reality Tour* layak digunakan sebagai media pembelajaran pada mata pelajaran Informatika. Media ini berpotensi meningkatkan motivasi, keterlibatan, dan pemahaman siswa terhadap materi Sistem Komputer di SMK.

Kata kunci: *Virtual Reality Tour*, Media Pembelajaran, Sistem Komputer, Informatika, Agile.

ABSTRACT

Ardiansyah. Development of a Computer Systems Learning Media Based on Virtual Reality Tour for Grade X Students of the Computer and Network Engineering Program at Vocational High School. Undergraduate Thesis. Faculty of Engineering, Universitas Negeri Medan. 2026.

Computer Systems learning in the Informatics subject at vocational high schools still faces several challenges, including the use of conventional learning media, limited laboratory facilities, and students' difficulties in understanding abstract and technical concepts. The results of observations conducted at SMK Negeri 13 Medan indicated that students expected more interactive and modern learning media to support the learning process. Therefore, this study aimed to develop a Virtual Reality Tour (VRT)-based Computer Systems learning media and to determine its validity and acceptability.

This study employed the Research and Development (R&D) method using the Agile development model, which consists of six stages: planning, implementation, testing, documentation, deployment, and maintenance. The research subjects included Grade X students of Computer and Network Engineering (TKJ 2) at SMK Negeri 13 Medan, an Informatics teacher, and university lecturers serving as subject matter and media experts. Data were collected through observations, interviews, expert validation, and user response questionnaires. The data were analyzed using descriptive quantitative methods to determine the validity and acceptability of the developed product.

The results showed that the Virtual Reality Tour-based learning media was successfully developed as a website featuring 360-degree panoramic views, learning materials, instructional videos, quizzes, and other interactive features. The developed media was evaluated as valid by both subject matter experts and media experts and received positive responses from students. The use of this learning media helped students understand Computer Systems concepts more effectively through a more visual, engaging, and interactive learning experience. In addition, the media can be accessed via computers and smartphones, providing greater flexibility in the learning process.

Based on the findings, it can be concluded that the Virtual Reality Tour-based Computer Systems learning media is appropriate for use as a learning medium in the Informatics subject. The developed media has the potential to improve students' motivation, engagement, and understanding of Computer Systems concepts in vocational high schools.

Keywords: *Virtual Reality Tour, Learning Media, Computer Systems, Informatics, Agile.*